

Remarks

I. Status of the Application and Claims

As originally filed, the present application had a total of 18 claims. These were cancelled in a Preliminary Amendment and new claims 19-38 were added. In the present response, claims 22, 23 and 32 were cancelled and new claims 39 and 40 were added. Thus, upon entry of the present amendments, the claims pending will be claims 19-21, 24-31 and 33-40.

II. The Amendments

Claim 19 was amended by reading in the limitation of cancelled claim 23.

Claim 31 was amended by reading in the limitation of cancelled claim 32.

Claim 34 was amended to require the presence of a laser inscribed image. Support for this amendment is found throughout the specification, see e.g., page 13, lines 15-27.

New claims 39 and 40 are supported by the original claims in the application and by the paragraph on page 11, line 27 - page 12, line 9.

The amendments made herein do not add new matter to the application and their entry is therefore respectfully requested.

The Rejections

I. Double Patenting Rejection

All claims have been provisionally rejected on non-statutory double patenting grounds based upon applications 10/544,041 and 11/368,602.

Since this is a provisional double patenting rejection, Applicants would like to defer consideration until after one of the applications has been allowed. The rejection may be obviated if the present application is the first to issue or due to amendments that occur during future prosecution. Also, Applicants would like to point out that the present claims have been

amended and request that the Examiner consider whether the double patenting rejection is still warranted.

II. Rejection of Claims Under 35 USC §102

On pages 3-5 of the Office Action, the Examiner rejects claims 19-22, 24-25, 31, 32, 34, 35 and 37 under 35 USC §102 as anticipated by WO 02/060988.

Claim 23 was directed to compositions containing a plastic matrix and a nanoscale laser-sensitive metal oxide at 0.001 to 0.01 weight-percent. Applicants have made amendments so that all claims now incorporate this limitation. Since claim 23 was not included in the rejection of claims under §102, Applicants respectfully submit that the present rejection has been overcome.

II. Rejection of Claims Under 35 USC §103

On pages 5-7 of the Office Action, the Examiner rejects claim 23 under 35 USC §103 based upon WO 02/060988 in combination with a page of the Aldrich Chemical catalogue which allegedly shows that the price of indium-tin-oxide particles is expensive. The Examiner alleges that this would make it obvious to lower the amount of metal oxide used in the compositions of the '988 reference. Later, the Examiner cites Murase, *et al.* (US 5,445,871); Radzwill (US 4,177,099); Smith, *et al.* (US 5,629,404); and Kawase, *et al.* (US 2004/0209031) in rejecting claims 26-30, 36 and 37.

Applicants respectfully traverse this rejection for the claims as amended herein. Since the limitation of claim 23 is present in all claims and since Applicants believe that this limitation is sufficient to render all claims nonobvious, they will focus most of their comments on this.

The '988 reference is the one primarily relied upon by the Examiner in rejecting claims. This reference is concerned with polyvinyl butyral polymers that are used primarily to form a transparent, shatter-proof layer in car windshields. The problem that the inventors address is that this layer transmits, rather than reflects, heat energy. As a result, cars may become uncomfortably hot when left in the sun for an extended period of time. In order to solve this problem, the '988 inventors incorporate lanthanum hexaboride into the polymeric

layer, apparently because this compound is exceptionally good at absorbing infrared radiation. In preferred embodiments, the inventors also suggest including a metal oxide, especially indium tin oxide or antimony tin oxide, to help in the absorption and reflection of heat energy. Thus, the objective of the compositions disclosed in '988 is to reduce heat transmission and not to provide for laser marking.

'988 provides guidance on appropriate ranges for metal oxides on page 10, lines 10-13, which read as follows:

In a preferred embodiment, indium tin oxide, antimony tin oxide or a mixture thereof will be present in the polyvinyl butyral composition in an amount of about 0.05% to about 2.0%, preferably about 0.1% to about 1.0%, and most preferably about 0.1% to about 0.5%.

The actual amounts of metal oxides used in the Examples of '988 were 0.45% antimony tin oxide (see legend of Figure 1, page 4, lines 3-11) and 0.2% indium tin oxide (page 4, lines 14-23). No other guidance concerning the amount of metal oxide in compositions is present in the reference. Since Applicants' present claims require that metal oxide be present at 0.001 to 0.01 percent, the lowest percentage suggested in the '988 reference is five times higher than the highest percentage permitted by Applicants' claims. This discrepancy is may be explained by the different objectives of the compositions.

The Examiner appears to recognize that there is a substantial difference between the concentration of metal oxide in '988 and the concentration now specified in Applicants' claims, but suggests that the use of a lower concentration in the '988 compositions would be obvious because the metal oxides used are expensive. However, this conclusion ignores that there are many other ways to reduce cost and that a reduction in materials must be balanced against the performance of the end product. With regard to the former, costs might also be reduced by manufacturing metal oxides internally, buying them in bulk, or by using a more efficient means of production. Alternative metal oxides could also be tried or the characteristics of the existing metal oxides might be altered to try to reduce cost. To the extent that one of skill might choose to attempt to reduce the amount of an existing metal oxide, each reduction would have to be balanced against the effect that the reduction had with respect to the inventors' objective of reducing heat transmission in polymeric layers. Clearly, at some point, the amount of metal oxide present would be unacceptably low in terms of

performance, *i.e.* a minimum would have been reached. However, there is no reason to believe that this minimum would fall within the range required of metal oxides in Applicants' claims. In fact, to the extent that the '988 reference provides guidance, it suggests that the minimum amount of metal oxide that could be used is much higher than Applicants' upper limit. Given these considerations, Applicants submit that there is no basis for concluding that the '988 reference makes the range of metal oxides of Applicants' claimed compositions obvious.

Apart from the considerations above, Applicants submit that claims 34 and 39 also have other bases for concluding that they are nonobvious. Claim 34 requires that plastic materials include a laser inscribed image and there is nothing in any of the references that were cited to suggest this. Claim 39 uses the transition "consists of" which has the effect of excluding lanthanum hexaboride, an essential element of the compositions of the '988 reference. Eliminating an element that is taught to be essential can clearly not be obvious.

Finally, no prior art rejection was made of claim 38. Thus, Applicants submit that, apart from a possible obviousness-type double patenting issue, this claim should be allowable.

Conclusion

In light of the considerations above, Applicants respectfully request that the Examiner reconsider and withdraw the rejections that have been made. If, in the opinion of the Examiner, a phone call may help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (240)683-6165.

Respectfully submitted,
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